Final

Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck Burning Grounds

Former Ravenna Army Ammunition Plant
Portage and Trumbull Counties, Ohio

Contract No. W912QR-15-C-0046

Prepared for:

US Army Corps of Engineers®

U.S. Army Corps of Engineers
Louisville District

Prepared by:

leidos

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8866 Commons Boulevard, Suite 201
Twinsburg, Ohio 44087

April 4, 2019

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14. ABSTRACT

This Proposed Plan for Landfill North of Winklepeck Burning Grounds summarizes findings of the Remedial Investigation Report, which included a thorough assessment of the site history. This assessment was used to define the final area of concern (AOC) associated with this site.

This plan also presents to the public the physical characteristics, geology, and hydrogeology of the site. This plan summarizes nature and extent of contamination in soil, sediment, and surface water; contaminant fate and transport; and human health and ecological risk assessments. These evaluations indicate there are no chemicals of concern (COCs) that pose unacceptable risk. Therefore, this plan presents a recommendation of No Further Action (NFA) with respect to soil, sediment, and surface water to attain Unrestricted (Residential) Land Use to the public.

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Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

April 29, 2019

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859114

Mr. David Connolly
Army National Guard Directorate
Environmental Programs Division
ARNG-ILE-CR
111 South George Mason Drive
Arlington, VA 22204

Subject: **Final Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck Burning Grounds**

Dear Mr. Connolly:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has reviewed the "Final Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck Burning Grounds," received on April 5, 2019. It was prepared by Leidos.

Ohio EPA has no further comments on the "Final Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck Burning Grounds." Based on the information contained in the Final Proposed Plan, other investigation documents and reports, and Ohio EPA's oversight during the investigation, Ohio EPA concurs with the Final Proposed Plan recommending no further action.

If you have any questions concerning this letter, please contact Edward D'Amato at (330) 963-1170, or via email at ed.damato@epa.ohio.gov.

Sincerely,

Melisa Witherspoon, Chief
Division of Environmental Response and Revitalization

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CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

Leidos has completed the Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck Burning Grounds at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of data quality objectives; technical assumptions; methods, procedures, and materials to be used; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing U.S. Army Corps of Engineers policy. In addition, an independent verification was performed to ensure all applicable changes were made per regulatory and Army comments.

April 4, 2019

Jed Thomas, P.E., PMP
Study/Design Team Leader

April 4, 2019

Sarika Johnson
Independent Technical Review Team Leader

Significant concerns and explanation of the resolutions are documented within the project file. As noted above, all concerns resulting from independent technical review of the project have been considered.

April 4, 2019

Lisa Jones-Bateman, REM, PMP
Senior Program Manager

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ARNG = Army National Guard.
I&E = Installations & Environment.
NEDO = Northeast District Office.
OHARNG = Ohio Army National Guard.
Ohio EPA = Ohio Environmental Protection Agency.
REIMS = Ravenna Environmental Information Management System.
SWDO = Southwest District Office.
USACE = U.S. Army Corps of Engineers.

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LIST OF ACRONYMS

AOC	Area of Concern
AOI	Area of Investigation
Army	U.S. Department of the Army
ARNG	Army National Guard
bgs	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CJAG	Camp James A. Garfield
COC	Chemical of Concern
COPC	Chemical of Potential Concern
COPEC	Chemical of Potential Ecological Concern
DERP	Defense Environmental Restoration Program
ERA	Ecological Risk Assessment
FWCUG	Facility-wide Cleanup Goal
HHRA	Human Health Risk Assessment
HQ	Hazard Quotient
ISM	Incremental Sampling Method
LNWBG	Landfill North of Winklepeck Burning Grounds
MMRP	Military Munitions Response Program
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
PBA08	2008 Performance-based Acquisition

PP	Proposed Plan	SI	Site Inspection
RCRA	Resource Conservation and Recovery Act	SL	Screening Level
		SRC	Site-related Contaminant
RI	Remedial Investigation	SVOC	Semi-volatile Organic Compound
ROD	Record of Decision	TR	Target Risk
RSL	Regional Screening Level	UXO	Unexploded Ordnance
RVAAP	Ravenna Army Ammunition Plant	WBG	Winklepeck Burning Grounds

1.0 INTRODUCTION

This Proposed Plan (PP) presents the conclusions and recommendations for soil, sediment, and surface water within the Landfill North of Winklepeck Burning Grounds (LNWBG) at the former Ravenna Army Ammunition Plant (RVAAP). The former RVAAP is now known as Camp James A. Garfield (CJAG) Joint Military Training Center and is located in Portage and Trumbull counties, Ohio (Figure 1). LNWBG is designated as RVAAP-19.

The Army National Guard (ARNG), in coordination with the Ohio Environmental Protection Agency (Ohio EPA), issues this PP to provide the public with information necessary to comment on the selection of an appropriate response action. The remedy will be selected for LNWBG after all comments submitted during the 30-day public comment period are considered. Therefore, the public is encouraged to review and comment on the preferred alternative presented in this PP.

ARNG is issuing this PP as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 *Code of Federal Regulations* 300). Selection and implementation of a remedy will also be consistent with the requirements of the Ohio EPA *Director's Final Findings and Orders*, dated June 10, 2004.

This PP summarizes information that can be found in greater detail in the *Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck Burning Grounds* (Leidos 2018), herein referred to as the LNWBG Remedial Investigation (RI) Report, and other documents contained in the Administrative Record file for LNWBG.

Public Comment Period:
July 29, 2019 to August 27, 2019

Public Meeting:
ARNG will hold an open house and public meeting to present the conclusions and additional details presented in the *Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck Burning Grounds* (Leidos 2018). Oral and written comments also will be accepted at the meeting. The open house and public meeting are scheduled for 6:00PM, August 15, 2019, at the Shearer Community Center, 9355 Newton Falls Road, Ravenna, Ohio 44266.

Information Repositories:
Information used in selecting the remedy is available for public review at the following locations:

Reed Memorial Library
167 East Main Street
Ravenna, Ohio 44266
(330) 296-2827

Hours of operation:
9AM-9PM Monday-Thursday
9AM-6PM Friday
9AM-5PM Saturday
1PM-5PM Sunday

Newton Falls Public Library
204 South Canal Street
Newton Falls, Ohio 44444
(330) 872-1282

Hours of operation:
9AM-8PM Monday-Thursday
9AM-5PM Friday and Saturday

Online
http://www.rvaap.org/

The **Administrative Record File**, containing information used in selecting the remedy, is available for public review at the following location:

Camp James A. Garfield Joint Military Training Center (former Ravenna Army Ammunition Plant)
Environmental Office
1438 State Route 534 SW
Newton Falls, Ohio 44444
(614) 336-6136

Note: Access is restricted to the facility, but the file can be obtained or viewed with prior notice.

ARNG's preferred alternative at LNWBG is no further action for soil, sediment, and surface water. ARNG encourages the public to review the site background documents to gain a more comprehensive understanding of the area of

concern (AOC), activities that have been conducted to date, and the rationale for the preferred alternative.

2.0 SITE BACKGROUND

2.1 Facility Description and Background

The former RVAAP, now known as CJAG, located in northeastern Ohio within Portage and Trumbull counties, is approximately 3 miles east/northeast of the city of Ravenna and 1 mile north/northwest of the city of Newton Falls (Figure 1). The facility is approximately 11 miles long and 3.5 miles wide. The facility is bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad to the south; Garrett, McCormick, and Berry Roads to the west; the Norfolk Southern Railroad to the north; and State Route 534 to the east. In addition, the facility is surrounded by the communities of Windham, Garrettsville, Charlestown, and Wayland. The facility is federal property, which has had multiple accountability transfers amongst multiple Army agencies, making the property ownership and transfer history complex. The most recent administrative accountability transfer occurred in September 2013 when the remaining acreage (not previously transferred) was transferred to the U.S. Property and Fiscal Officer for Ohio and subsequently licensed to the Ohio Army National Guard (OHARNG) for use as a military training site (Camp James A. Garfield).

2.2 LNWBG Location and Operational History

LNWBG is in the central portion of CJAG and is accessed via gates on George Road. The site is east of George Road, south of Smalley Road, and north of the Mark 19 Range and Winklepeck Burning Grounds (WBG) AOC.

The LNWBG RI Report used historical information, aerial photographs, and investigative findings to assess the extent of this AOC. To do so, a 28-acre area of investigation (AOI) was established that encompassed the locations of all samples collected, and the area was evaluated to assess and define the actual LNWBG AOC. The AOI is depicted in Figure 2.

The southernmost border of the AOI is approximately 160 ft north of WBG (currently a Mark 19 range). The AOI includes two tributaries to Sand Creek (East Tributary and South Tributary).

The operational dates at LNWBG provided in historical documents vary. Many of the documents indicate that the end use date of LNWBG was 1976. However, the 1982 Installation Reassessment (USATHAMA 1982) stated the following regarding activities at WBG and LNWBG:

> "An area within the Winklepeck Burning Grounds was used as landfill for general refuse from 1941–1969. Most of these wastes were burned and covered with earth. From 1969–1978 burning operations were moved to an area just north of Winklepeck Burning Grounds, and Winklepeck Burning Grounds were used for landfilling refuse only. Since 1978, the Ramsdell Quarry has been used for landfilling operations."

Using this information, the timeline below conservatively estimates operations specific to LNWBG:

- 1969–1978: An area within LNWBG was used for burning operations previously performed at WBG.
- After 1978: The only facility landfilling operations were performed at Ramsdell Quarry.

Aerial photography of LNWBG indicates that no additional activities were conducted after these stated timeframes, and there is no documentation of additional operations at LNWBG after 1978. In addition, per the 1982 Installation Reassessment and findings from the RIs (i.e., mostly surficial waste was identified and limited risk was determined), it

is evident that LNWBG was predominantly used for burning wastes, as opposed to trench and fill-type operations of a landfill.

3.0 SITE CHARACTERISTICS

3.1 Site Description

Ground elevations across LNWBG range from approximately 994–1,054 ft above mean sea level. The topographic high is on the western boundary at the former location of a barn. The topographic relief is moderate from the location of the former barn to the areas disturbed by operational activities. The highest elevation at the area disturbed by operational activities is 1,032 ft above mean sea level.

Perennial surface water features (wetlands and tributaries) are located within the eastern and southern portions of the AOI (Figure 2). Surface water occurs intermittently as storm water runoff on the ground surface of the disturbed area. Surface water flow is the primary migration pathway for contamination to leave this area, flowing through ditches and surface water drainage features that follow site topography toward the East Tributary and South Tributary.

Sandy silt glacial soil overlies sandstone bedrock at LNWBG, except where disturbed by former RVAAP activities. During site investigations, bedrock was encountered at 9–24 ft below ground surface (bgs). The generalized groundwater flow direction is from the center of the AOI to the northeast and southeast.

3.2 Environmental Investigations

The U.S. Department of the Army (Army) investigated 28 acres in and around the site used during historical operations. This area is referred to as the AOI. The following environmental investigations have been completed for LNWBG:

- Installation Assessment of Ravenna Army Ammunition Plant (USATHAMA 1978);
- Installation Reassessment of Ravenna Army Ammunition Plant (USATHAMA 1982);
- Resource Conservation and Recovery Act (RCRA) Facility Assessment (Jacobs 1989);
- Preliminary Assessment for the Characterization of Areas of Contamination (USACE 1996);
- Phase I RI Report for High-Priority Areas of Concern (USACE 1998);
- Characterization of 14 AOCs (MKM 2007); and
- Performance-based Acquisition 2008 (PBA08) RI (SAIC 2009).

These investigations were used to define the actual LNWBG AOC, which is also referred to as "Area A" within the LNWBG RI Report and this PP, and to assess potential chemical contamination and human health and ecological risk.

3.3 Defining the Area of Concern

Historical reports and site assessments have varying estimates of the acreage and location where operational activities took place at LNWBG. One purpose of the LNWBG RI Report was to establish the area at LNWBG that was used for operational activities. The inclusive area identified as potentially impacted during site activities was identified as "Area A" in the LNWBG RI Report.

"Area A" was established by reviewing aerial photography, conducting geophysical investigations, assessing trenching and soil borings, and performing site walks of the 28-acre AOI. These activities are summarized in the following subsections.

3.3.1 Review of Aerial Photography

Section 2.2.3 of the LNWBG RI Report assessed available aerial photography of the site. An aerial photograph from 1966, which is before operational activities at LNWBG took place, and an aerial photograph from 1979,

which is after operational activities at LNWBG were discontinued, are presented in the report.

The review of the aerial photography indicated that a 1.8-acre area appears to have been used for historical operations. This area is at the end of the access road leading toward an open area, approximately 800 ft east of George Road. This 1.8-acre area was included in "Area A."

3.3.2 Phase I RI – Geophysical Investigation

Although much of the area appears undisturbed and has vegetation and trees established, a 4-acre area was clear of vegetation as of 1979. A geophysical investigation was performed in this area, including the 1.8-acre area identified from the aerial photograph review as having been used for historical operations.

The geophysical survey identified 12–14 anomalies located in 4 general areas that indicate the presence of buried metallic debris and waste. These geophysical anomalies are within "Area A."

3.3.3 Phase I RI – Test Trenches and Soil Sampling

The results of the geophysical survey were used to identify locations of five test trenches that then were used to collect nine soil samples. Five trenches were excavated using a backhoe at the location of anomalies identified during the geophysical investigation. Ten trenches were originally planned; however, the results of the geophysical survey indicated the burials were much smaller than originally thought.

The test trenches were approximately 15 ft long by 2 ft wide and 3 ft deep and did not encounter groundwater. Encountered refuse was generally present within the upper 1 ft of soil, and there was no field evidence indicating that potentially hazardous material was present.

3.3.4 Subsurface Soil Samples

Seventeen soil borings at sample locations LNWBG-053 to LNWBG-069 were installed at LNWBG during the Characterization of 14 AOCs. The purpose of the soil borings was to:

- Assess the potential impact of landfill operations on subsurface soil,
- Characterize the soil outside the main landfill area,
- Determine the horizontal extent of the landfill, and
- Determine nature of contamination.

The soil borings were advanced to a depth of 10 ft bgs. A sample was collected from each 2-ft interval (2–4, 4–6, 6–8, and 8–10 ft bgs), and the interval with the highest photoionization detector reading was sent to the laboratory for analysis.

A review of the soil boring logs indicates that no refuse or debris was encountered in the soil borings. This is consistent with the stated purpose of the soil borings, which was to characterize soil outside of the estimated extent of operational activities. However, "Area A" conservatively included LNWsb-064 and LNWsb-066 to LNWsb-069, as these borings are in or very near the geophysical anomalies identified in 1996.

3.3.5 2007 MMRP Geophysical Investigation

In October 2007, as part of a Military Munitions Response Program (MMRP) site inspection (SI), a meandering path magnetometer and metal detector assisted unexploded ordnance (UXO) survey was conducted over approximately 15 acres of the hillside overlooking the East Tributary and the creek bottom. The locations of the identified subsurface anomalies and debris along the slope are within "Area A." The SI field activities found no visual evidence of mounding or disturbed soil patches that would represent potential burial sites.

3.3.6 March 2011 Site Walk

The March 2011 site walk further evaluated surface features at the site, identified and documented surface debris, and assessed if indications of historical burial activities existed. This site walk documented the presence of debris (e.g., old drums, glass bottles, an old tire, wood fragments, concrete) on the ground surface along the slope overlooking the East Tributary. The presence of the debris appears to be in a different area from the operational activities conducted from 1969–1978; however, ARNG is conservatively including these areas within the AOC boundary.

3.3.7 Final AOC Boundary

Using the aerial photograph from 1979 (after operational activities at LNWBG), Figure 3 presents the geophysical anomalies identified during the 1996 and 2007 geophysical investigations, locations of test trenches, locations of soil borings, and photographs of debris identified during site walks. This information was used to define the 3.4-acre LNWBG AOC, also referred to as "Area A" in this PP.

3.4 Chemical Contaminant Evaluation

The LNWBG RI Report evaluated potential chemical contamination for the entire 28-acre AOI. The soil site-related contaminant (SRC) screening data set included surface soil samples from the Phase I RI and Characterization of 14 AOCs and surface and subsurface soil samples from the PBA08 RI. Sample locations from the Phase I RI, Characterization of 14 AOCs, and PBA08 RI are presented in Figure 4.

The following subsections discuss chemical concentrations in soil, sediment, and surface water at the AOI.

3.4.1 Soil

In surface soil (0–1 ft bgs) and subsurface soil (greater than 1 ft bgs) at LNWBG, the prevalent SRCs and chemicals of potential concern (COPCs) detected were inorganic chemicals and semi-volatile organic compounds (SVOCs). No conclusive spatial trend is evident for the inorganic chemicals. The majority of SVOCs were polycyclic aromatic hydrocarbons.

Concentrations reported at LNWBG were below the risk-based screening levels (SLs) with the exception of thallium at "Area A." Thallium was detected above the SL of 0.612 mg/kg in surface and subsurface soil. The thallium concentrations were below the Resident Receptor (Adult and Child) facility-wide cleanup goal (FWCUG) at a target risk (TR) of 1E-05, hazard quotient (HQ) of 1.

Benzo(a)pyrene was detected at four sample locations (LNWss-028M, LNWss-042M, LNWss-070M, LNWss-078M) at concentrations that exceeded the SL of 0.022 mg/kg; thus, benzo(a)pyrene was identified as a COPC. Benzo(b)fluoranthene and dibenz(a,h)anthracene concentrations also exceeded their respective SLs at LNWss-070M and were identified as COPCs. The benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene concentrations were below the Resident Receptor (Adult and Child) FWCUG at a TR of 1E-05, HQ of 1.

3.4.2 Sediment and Surface Water

Sediment and surface water samples were collected at two locations (East Tributary and South Tributary). The sediment and surface water SRC screening data set included incremental sampling method (ISM) samples from the Characterization of 14 AOCs and discrete sediment samples from the PBA08 RI for the East Tributary and South Tributary sample aggregates, respectively. Sample locations are presented in Figure 4.

In the East Tributary sediment, benzo(a)pyrene exceeded the SL at a TR of 1E-06, HQ of 0.1 (discrete and ISM data sets) and cobalt exceeded the SL at a TR of 1E-06, HQ of 0.1 (discrete data set only). In the South Tributary sediment, cobalt exceeded the SL at a TR of

1E-06, HQ of 0.1 (discrete data set only), but did not exceed the Resident Receptor (Adult and Child) FWCUG at a TR of 1E-05, HQ of 1.

Acetone was detected in the East Tributary surface water, but concentrations did not exceed the regional screening level (RSL) at a TR of 1E-06, HQ of 0.1. Bis(2-ethylhexyl)phthalate was detected but did not exceed the RSL at a TR of 1E-05, HQ of 1. In the South Tributary surface water, manganese, cobalt, and bis(2-ethylhexyl)phthalate were identified as COPCs; however, their concentrations were below the Resident Receptor (Adult and Child) FWCUG at a TR of 1E-05, HQ of 1. Nitrocellulose and acetone were detected but did not exceed the RSL at a TR of 1E-06, HQ of 0.1.

4.0 SCOPE AND ROLE OF RESPONSE ACTION AND LAND USE

ARNG, in coordination with Ohio EPA, is implementing the Installation Restoration Program with the overall program strategy of addressing the principal environmental threats at each site posing a risk to applicable receptors. This PP addresses soil, sediment, and surface water. The response action for these media at LNWBG is being conducted to meet this overall program strategy. Groundwater will be addressed under the RVAAP Facility-wide Groundwater AOC (RVAAP-66) as a separate decision. However, the selected remedy for soil and sediment at LNWBG also must be protective of groundwater.

Human access to LNWBG and potential exposure is currently restricted due to the fact that it is within the CJAG range complex and, therefore, on an operational range. Regardless, the human receptors (e.g., Resident Receptor) are evaluated in the human health risk assessment (HHRA) in accordance with the Technical Memorandum (ARNG 2014). Although residential use is not anticipated at CJAG or at the AOC, Unrestricted (Residential) Land Use was evaluated in accordance with Defense Environmental Restoration Program (DERP) Manual 4715.20 (DoD 2012) in order to make appropriate risk management decisions.

Resident Receptor (Adult and Child) FWCUGs were used to conduct an Unrestricted (Residential) Land Use evaluation. Sites that meet the standards for Unrestricted (Residential) Land Use also are considered protective for Military Training and Commercial Industrial Land Uses.

No prior removal actions have been conducted at this site, and early or interim actions are not planned. The proposed response actions at LNWBG will be implemented under the authority of and in accordance with the requirements of the Ohio EPA *Director's Final Findings and Orders*, dated June 10, 2004 (Ohio EPA 2004).

5.0 SUMMARY SITE RISKS

5.1 Human Health Risk Assessment

An HHRA was performed to identify chemicals of concern (COCs) and provide a risk management evaluation to determine if remediation is required under CERCLA, based on potential risks to human receptors.

The media evaluated in the HHRA for the Resident Receptor (Adult and Child) were surface soil (0–1 ft bgs), subsurface soil (1–13 ft bgs), sediment, and surface water. Surface water and sediment were evaluated at the East Tributary and South Tributary.

Surface and subsurface soil samples within the designated "Area A" were evaluated to conservatively and specifically assess risk specific to the geophysical anomalies identified during the Phase I RI Report and areas known to have debris on the ground surface. Thallium and benzo(a)pyrene were identified as COPCs in surface soil; thallium also was identified as a COPC in subsurface soil. However, the detected concentrations of thallium and benzo(a)pyrene were less than the Resident Receptor (Adult and Child) FWCUG at a TR of 1E-05, HQ of 1. No unacceptable

risk to human health was identified within "Area A."

For the entirety of the AOI, no COCs were identified for the Resident Receptor (Adult and Child) in soil, sediment, or surface water; therefore, no other receptors were evaluated and no further action was recommended from a human health perspective.

5.2 Ecological Risk Assessment

The Level I Ecological Risk Assessment (ERA) presents important ecological resources on or near LNWBG and evaluates the potential for current contamination to impact ecological resources. Chemical contamination is present in surface soil, sediment, and surface water at LNWBG.

This contamination was identified using ISM and discrete soil data collected for the historical ERA and PBA08 RI. Thirteen integrated soil chemicals of potential ecological concern (COPECs), eight integrated sediment COPECs, and two integrated surface

Consequently, the ERA for LNWBG concludes with a Level I Scoping Level Risk Assessment and a recommendation that no further action is required to be protective of ecological resources.

5.3 Impacts to Groundwater

The potential for soil and sediment contaminants to impact groundwater was evaluated in a fate and transport evaluation presented in the LNWBG RI Report (Leidos 2018). The fate and transport evaluation included modeling and compared the model results to current groundwater monitoring data. The modeling evaluated the potential for contaminants to leach from soil and sediment and impact groundwater beneath LNWBG. The modeling also evaluated if contaminants could potentially migrate from LNWGB to the closest downgradient surface water features (e.g., East Tributary or South Tributary). Modeling results indicated 13 soil and 3 sediment contaminant migration chemical of potential concern (CMCOPCs) could potentially leach from soil or sediment and mix with groundwater beneath LNWBG, resulting in concentrations above maximum contaminant levels, U.S. Environmental Protection Agency RSLs, or groundwater FWCUGs.

Evaluation of modeling results with respect to current groundwater data and model limitations indicates that identified soil SRCs are not currently impacting groundwater beneath the source areas and that predicted future impacts would be mitigated by factors such as chemical and biological degradation and lateral dispersivity. Based on the fate and transport evaluation, no CMCOPCs for soil or sediment were identified as impacting groundwater. Groundwater will be further evaluated as part of the Facility-wide Groundwater AOC (RVAAP-66).

6.0 CONCLUSIONS

The operational dates and activities at LNWBG provided in historical documents vary. However, the LNWBG RI Report included a thorough review of the site, including a records review, aerial photography

review, and subsurface investigations. The LNWBG RI Report concluded that the site was not used for landfilling activities; rather, the site was used predominantly for burning of wastes. Test trenching was performed and only identified non-native material within the upper 1 ft of soil.

The 1982 Installation Reassessment (USATHAMA 1982) states that LNWBG was used from 1969 to 1978. Aerial photography of LNWBG indicates that no additional activities were conducted after these stated timeframes, and no documentation of additional operations at LNWBG after 1978 exists.

The Army investigated 28 acres in and around the site used during historical operations. This area is referred to as the AOI. Findings from aerial photography, geophysical surveys, and subsurface investigations have resulted in defining the 3.4-acre LNWBG AOC, which is also referred to as "Area A" within the LNWBG RI Report and this PP.

The entire 28-acre AOI was investigated for potential chemical contamination and assessed for risk. The HHRA determined that no remediation is required to be protective for Resident Receptors (Adult and Child). The ERA concluded no significant ecological resources exist. The fate and transport assessment determined chemicals in soil and sediment are not impacting groundwater. The groundwater will be further evaluated as part of the Facility-wide Groundwater AOC (RVAAP-66).

Accordingly, ARNG, in coordination with Ohio EPA, is recommending no further action to attain Unrestricted (Residential) Land Use for soil, sediment, and surface water at LNWBG.

This recommendation is not a final decision. ARNG, in coordination with Ohio EPA, will select the remedy for LNWBG after reviewing and considering all comments submitted during the 30-day public comment period.

7.0 COMMUNITY PARTICIPATION

7.1 Community Participation

Public participation is an important component of the remedy selection. ARNG, in coordination with Ohio EPA, is soliciting input from the community on the preferred alternative.

The comment period extends from July 29, 2019 to August 27, 2019. This period includes a public meeting at which ARNG will present this PP. ARNG will accept oral and written comments at this meeting.

7.2 Public Comment Period

The 30-day comment period is from July 29, 2019 to August 27, 2019, and provides an opportunity for public involvement in the decision-making process for the proposed action. The public is encouraged to review and comment on this PP.

ARNG and Ohio EPA will consider all public comments before selecting a remedy. During the comment period, the public is encouraged to review documents pertinent to LNWBG.

This information is available at the Information Repositories and online at www.rvaap.org. To obtain further information, contact Kathryn Tait of the CJAG Environmental Office at kathryn.s.tait. nfg@mail.mil.

7.3 Written Comments

If the public would like to comment in writing on this PP or other relevant issues, please deliver comments to ARNG at the public meeting or mail written comments (postmarked no later than August 27, 2019).

POINT OF CONTACT FOR WRITTEN COMMENTS

Mailing Address:
Camp James A. Garfield JMTC
Environmental Office
Attn: Kathryn Tait
1438 State Route 534 SW
Newton Falls, Ohio 44444

E-mail Address:
kathryn.s.tait.nfg@mail.mil

7.4 Public Meeting

ARNG will hold an open house and public meeting on this PP on August 15, 2019, at 6:00PM, in the Shearer Community Center, 9355 Newton Falls Road Ravenna, Ohio 44266 to accept comments.

This meeting will provide an opportunity for the public to comment on the proposed action. Comments made at the meeting will be transcribed.

7.5 Review of Public Comments

ARNG will review the public's comments as part of the process in reaching a final decision for the most appropriate action to be taken.

The Responsiveness Summary, a document that summarizes the ARNG's responses to comments received during the public comment period, will be included in the Record of Decision (ROD). ARNG's final choice of action will be documented in the ROD.

The ROD will be added to the RVAAP Restoration Program Administrative Record and Information Repositories.

ADMINISTRATIVE RECORD FILE

Camp James A. Garfield JMTC (former Ravenna Army Ammunition Plant)
Environmental Office
1438 State Route 534 SW
Newton Falls, Ohio 44444
(614) 336-6136
Note: Access is restricted to the facility, but the file can be obtained or viewed with prior notice.

INFORMATION REPOSITORIES

Reed Memorial Library
167 East Main Street
Ravenna, Ohio 44266
(330) 296-2827
Hours of operation:
9AM-9PM Monday-Thursday
9AM-6PM Friday
9AM-5PM Saturday
1PM-5PM Sunday

Newton Falls Public Library
204 South Canal Street
Newton Falls, Ohio 44444
(330) 872-1282
Hours of operation:
9AM-8PM Monday-Thursday
9AM-5PM Friday and Saturday

Online
http://www.rvaap.org/

GLOSSARY OF TERMS

Administrative Record: a collection of documents, typically reports and correspondence, generated during site investigation and remedial activities. Information in the Administrative Record represents the information used to select the preferred alternative.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): a federal law passed in 1980, commonly referred to as the Superfund Program. It provides liability, compensation, cleanup, and emergency response in connection with the cleanup of inactive hazardous substance release sites that endanger public health or the environment.

Contaminant Migration Chemical of Potential Concern (CMCOPC): a chemical substance specific to an area of concern that poses potential to leach to groundwater at a concentration above human health risks goals.

Chemical of Concern (COC): a chemical substance specific to an area of concern that potentially poses significant human health or ecological risks. COCs are typically further evaluated for remedial action.

Chemical of Potential Concern (COPC): a chemical substance specific to an area of concern that potentially poses human health risks and requires further evaluation in the RI. COPCs are typically not evaluated for remedial action.

Chemical of Potential Ecological Concern (COPEC): a chemical substance specific to an area of concern that potentially poses ecological risks and requires further evaluation in the RI. COPECs are typically not evaluated for remedial action.

Ecological Receptor: a plant, animal, or habitat exposed to an adverse condition.

Human Receptor: a hypothetical person, based on current or potential future land use, who may be exposed to an adverse condition. For example, the National Guard Trainee is considered the hypothetical person when evaluating Military Training Land Use at the former RVAAP.

Important Ecological Place or Resource: a place or resource that exhibits unique, special, or other attributes that makes it of great value.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): the set of regulations that implement CERCLA and address responses to hazardous substances and pollutants or contaminants.

Record of Decision (ROD): a legal record signed that describes the cleanup action or remedy selected for a site, the basis for selecting that remedy, public comments, and responses to comments.

Remedial Investigation (RI): CERCLA investigation that involves sampling environmental media, such as air, soil, and water, to determine the nature and extent of contamination and to calculate human health and environmental risks that result from the contamination.

Responsiveness Summary: a section of the ROD that documents and responds to written and oral comments received from the public about the PP.

Risk Assessment: an evaluation that determines potential harmful effects, or lack thereof, posed to human health and the environment due to exposure to chemicals found at a CERCLA site.

Significant Ecological Resource: an important ecological resource found at an AOC, or in its vicinity, that is subject to contaminant exposure.

Target Risk: the Ohio Environmental Protection Agency (2009) identifies 1E-05 as a target for cancer risk for carcinogens and an acceptable target hazard index of 1 for non-carcinogens.

Unrestricted (Residential) Land Use: a land use defined for the RVAAP restoration program that is considered protective for all three land uses at Camp James A. Garfield Joint Military Training Center. If an area of concern meets the requirements for Unrestricted (Residential) Land Use, then the area of concern can also be used for Military Training and Commercial/Industrial purposes.

REFERENCES

ARNG (Army National Guard) 2014. *Final Technical Memorandum: Land Uses and Revised Risk Assessment Process for the Ravenna Army Ammunition Plant (RVAAP) Installation Restoration Program, Portage/Trumbull Counties, Ohio (Tech Memo)*. (Memorandum between ARNG-ILE Cleanup and the Ohio Environmental Protection Agency; dated 4 February 2014). February 2014.

DoD (U.S. Department of Defense) 2012. *Defense Environmental Restoration Program (DERP) Management Manual*. Number 4715.20. March 2012.

Jacobs (Jacobs Engineering Group, Inc.) 1989. *RCRA Facility Assessment, Preliminary Review/Visual Site Inspection, Ravenna Army Ammunition Plant Ravenna, Ohio*. October 1989.

Leidos 2018. *Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck Burning Grounds, Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio*. January 2018.

MKM (MKM Engineers, Inc.) 2007. *Characterization of 14 AOCs at Ravenna Army Ammunition Plant.* March 2007.

Ohio EPA (Ohio Environmental Protection Agency) 2004. *Director's Final Findings and Orders for the Ravenna Army Ammunition Plant*. June 2004.

Ohio EPA 2008. *Guidance for Conducting Ecological Risk Assessments. Division of Emergency and Remedial Response*. April 2008.

Ohio EPA 2009. *Technical Decision Compendium: Human Health Cumulative Carcinogenic Risk and Non-carcinogenic Hazard Goals for DERR Remedial Response Program.* August 2009.

SAIC (Science Applications International Corporation) 2009. *PBA 2008 Supplemental Investigation Sampling Analysis Plan Addendum No. 1 Ravenna Army Ammunition Plant, Ravenna, Ohio*. December 2009.

USACE (U.S. Army Corps of Engineers) 1996. *Preliminary Assessment for the Characterization of Areas of Contamination at the Ravenna Army Ammunition Plant, Ravenna, Ohio*. February 1996.

USACE 1998. *Phase I Remedial Investigation Report for High-Priority Areas of Concern at the Ravenna Army Ammunition Plant, Ravenna, Ohio*. February 1998.

USATHAMA (U.S. Army Toxic and Hazardous Materials Agency) 1978. *Installation Assessment of Ravenna Army Ammunition Plant*, Records Evaluation Report No. 132. November 1978.

USATHAMA 1982. *Installation Reassessment of Ravenna Army Ammunition Plant, Ravenna Ohio Report No. 132R*. December 1982.

FIGURES

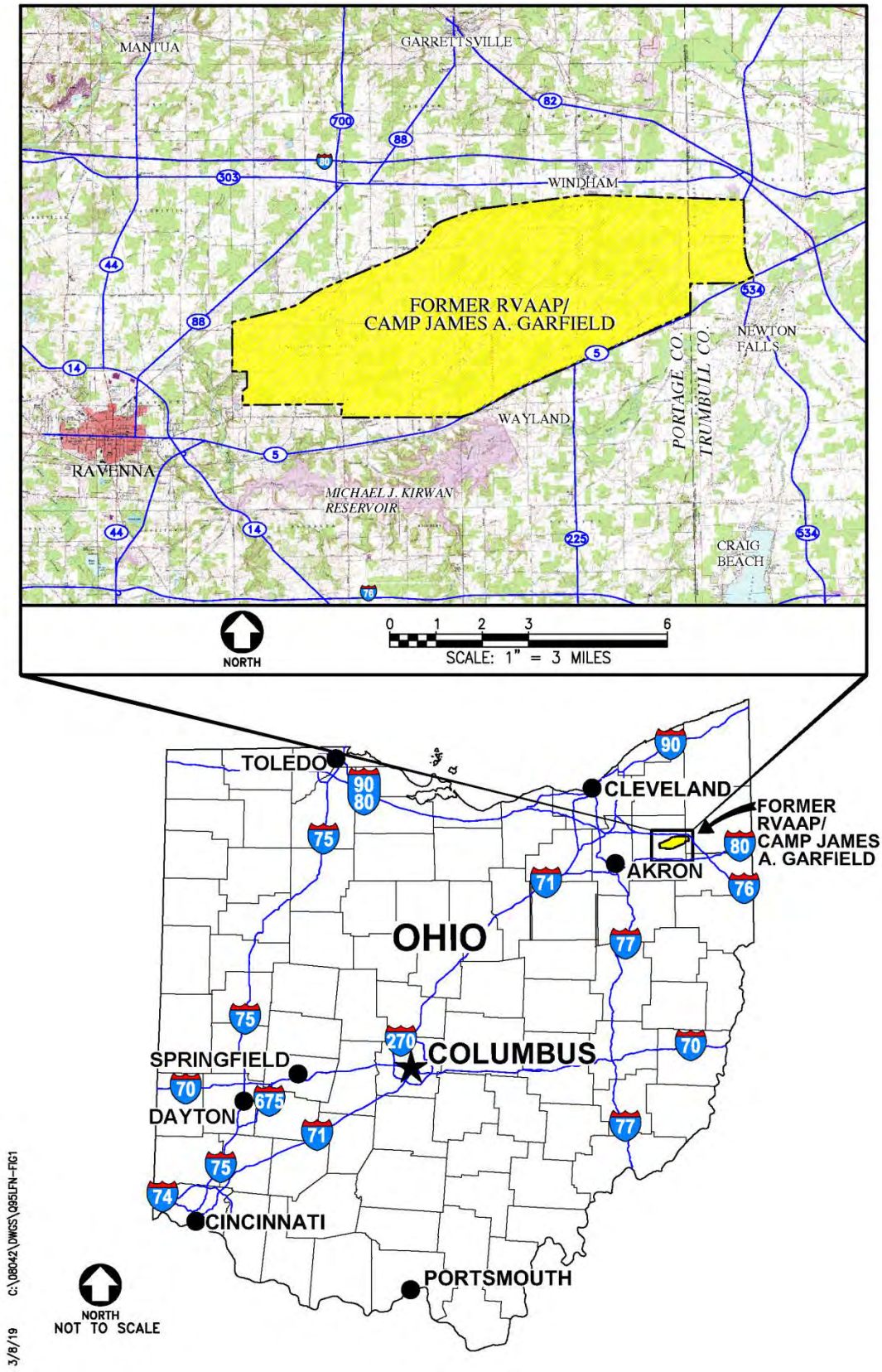

Figure 1. General Location and Orientation of Camp James A. Garfield

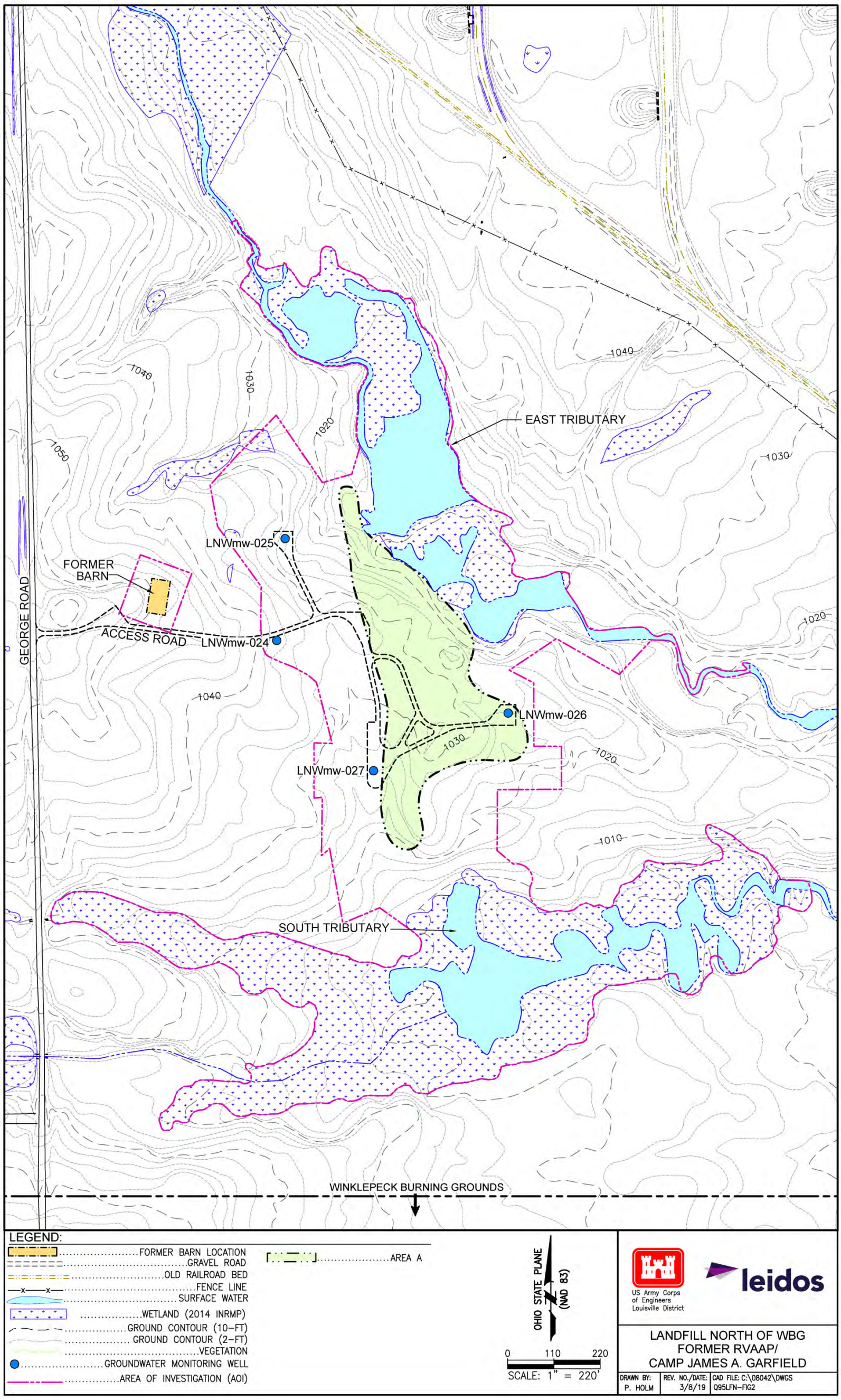

Figure 2. Area of Investigation at Landfill North of Winklepeck Burning Grounds

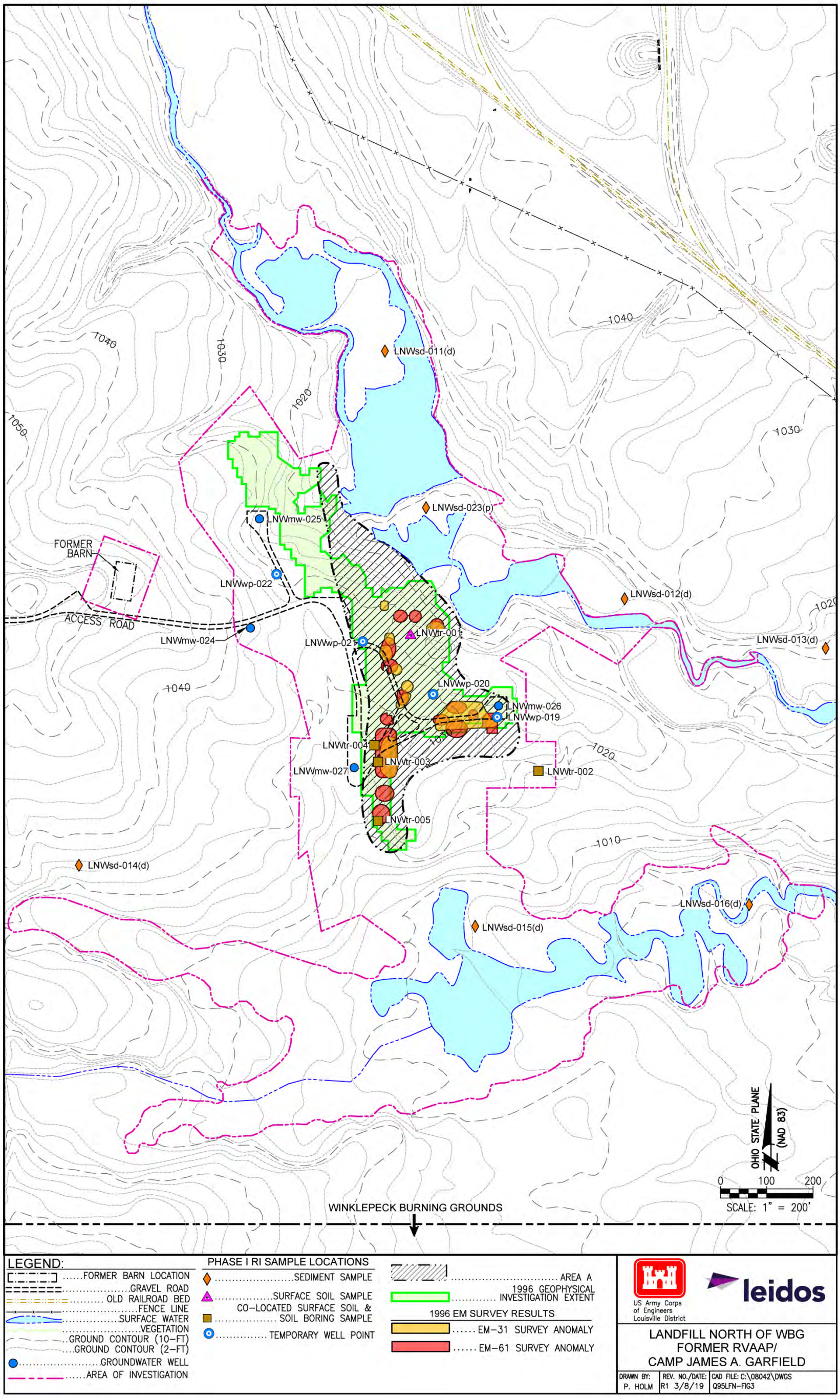

Figure 3. Phase I RI Sample Locations

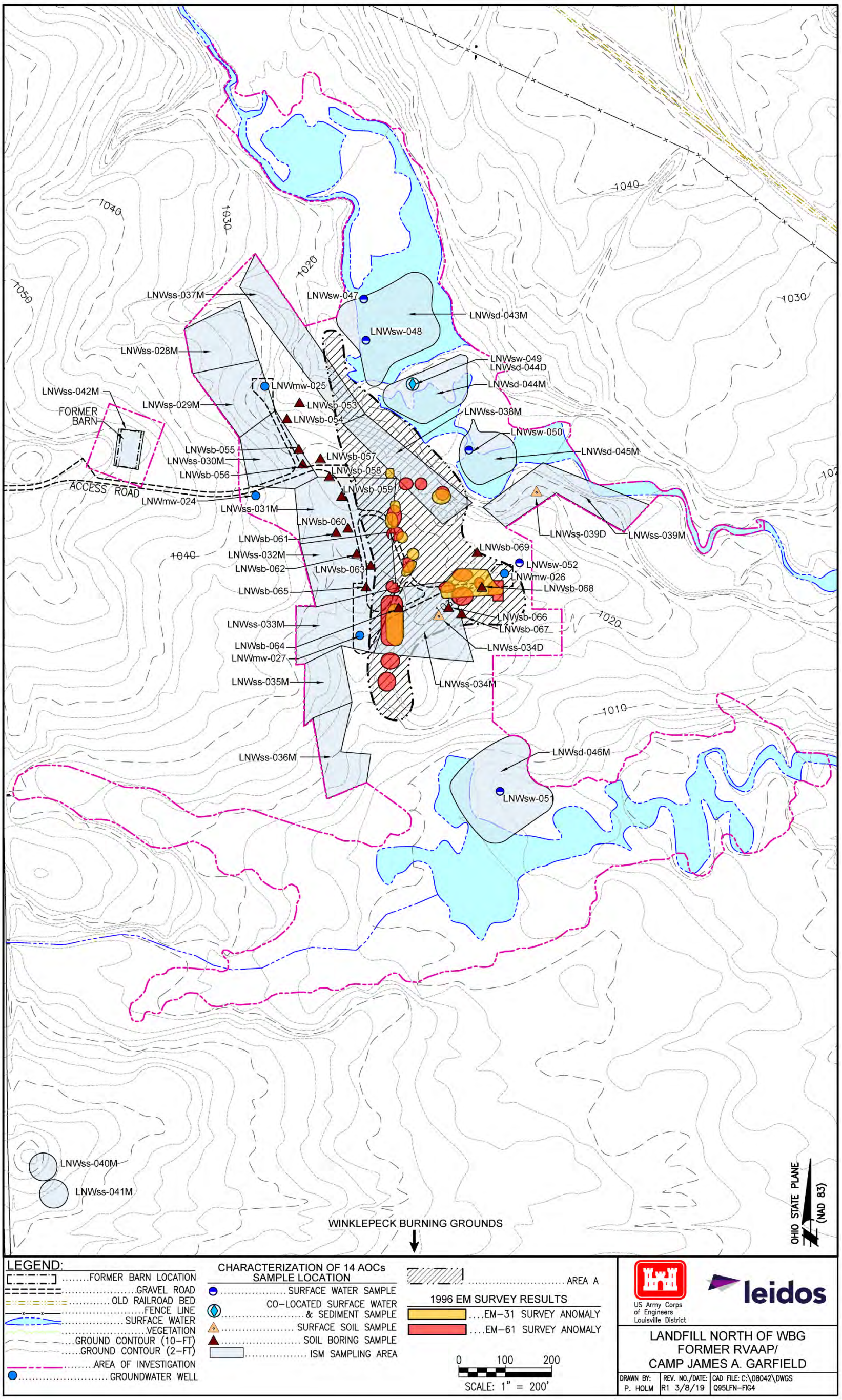

Figure 4. Characterization of 14 AOCs Sample Locations

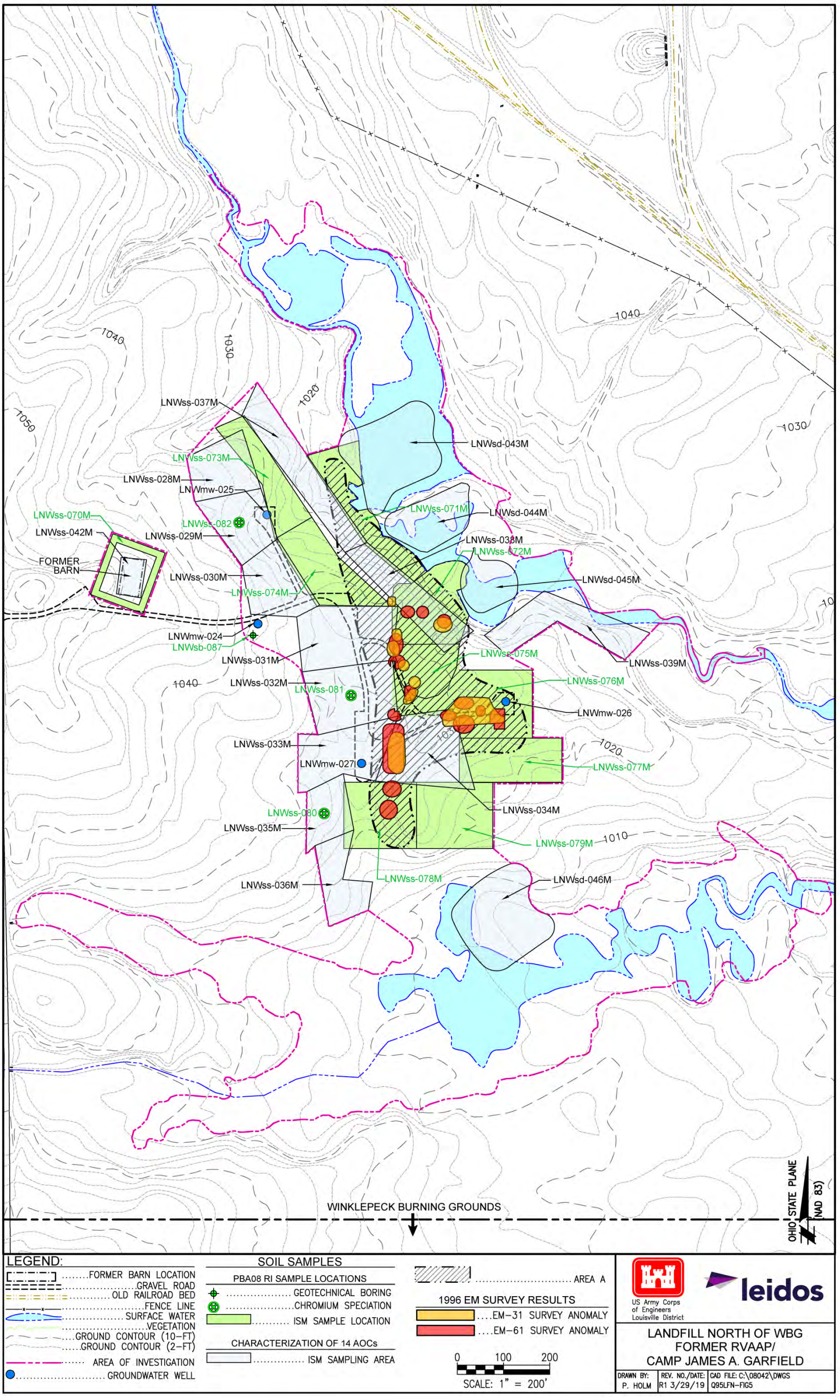

Figure 5. PBA08 RI Soil Sample Locations

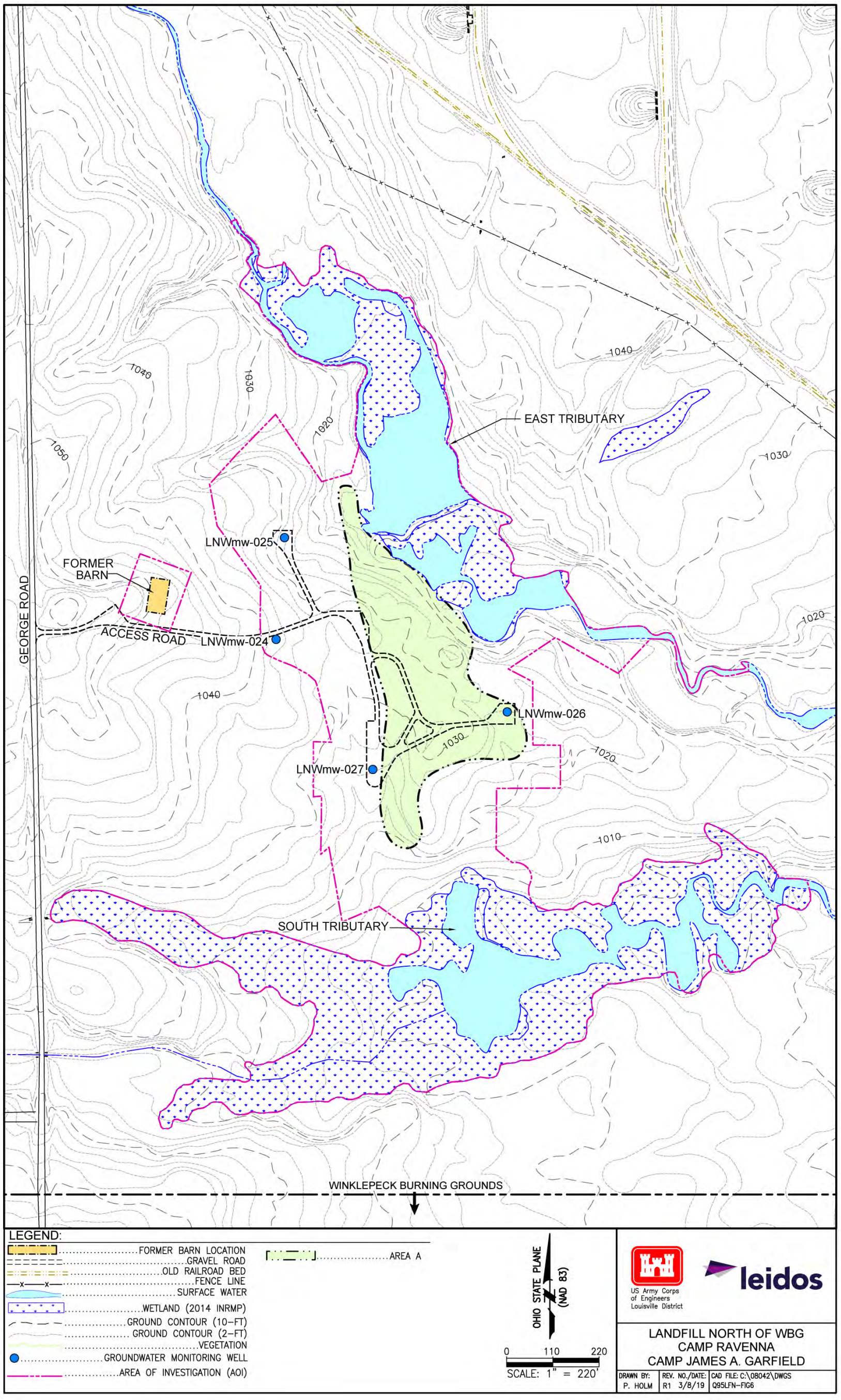

Figure 6. Site Features of Landfill North of Winklepeck Burning Grounds

ATTACHMENT A

Ohio EPA Comments

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

March 21, 2019

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859114

Mr. David Connolly
Army National Guard Directorate
Environmental Programs Division
ARNG-ILE-CR
111 South George Mason Drive
Arlington, VA 22204

Subject: **Response to Comments, Draft Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19, Landfill North of Winklepeck Burning Grounds**

Dear Mr. Connolly:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the Response to Ohio EPA comments on the "Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19, Landfill North of Winklepeck Burning Grounds." The response to comments, prepared by Leidos, was received by Ohio EPA, NEDO on March 7, 2019.

All comments have been adequately addressed. Ohio EPA concurs with the recommendation of No Further Action. Please submit the "Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19, Landfill North of Winklepeck Burning Grounds" in final form.

If you have any questions concerning this letter, please contact me at (330) 963-1170 or by email at ed.damato@epa.ohio.gov.

Sincerely,

Edward D'Amato
Site Coordinator
Division of Environmental Response and Revitalization

RECEIVED
MAR 21 2019

ED/sc

ec: Nat Peters, USACE
Craig Coombs, USACE
Katie Tait, OHARNG RTLS
Kevin Sedlak, OHARNG RTLS
Rebecca Shreffler, Chenega
Mark Johnson, Ohio EPA, NEDO, DERR
Bob Princic, Ohio EPA, NEDO, DERR
Tom Schneider, Ohio EPA, SWDO, DERR

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

March 6, 2019

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Edward D'Amato, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-19 Landfill North of Winklepeck Burning Grounds, Responses to Comments on the Draft Proposed Plan (Work Activity No. 267-000-859-114)

Dear Mr. D'Amato:

The Army appreciates your time and comments (dated February 28, 2019) on the Draft Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19 Landfill North of Winklepeck Burning Grounds. Enclosed for your review are responses to your comments. Upon the final resolution of these responses to comments, the Army will distribute the final version of this plan.

This plan was prepared for the Army in support of the RVAAP restoration program. Please contact the undersigned at (703) 607-7589 or david.m.connolly8.civ@mail.mil if there are issues or concerns with this submission.

Sincerely,

SEDLAK.KEVIN.MICHAEL.1254440171
Digitally signed by SEDLAK.KEVIN.MICHAEL.1254440171
Date: 2019.03.06 15:25:30 -05'00'

FOR Mr. David Connolly
RVAAP Restoration Program Manager
Army National Guard Directorate

cc: Mark Johnson, Ohio EPA, NEDO
Bob Princic, Ohio EPA, NEDO
Tom Schneider, Ohio EPA, SWDO
Kevin Sedlak, ARNG, Camp James A. Garfield
Katie Tait, OHARNG, Camp James A. Garfield
Craig Coombs, USACE Louisville
Nathaniel Peters, II, USACE Louisville
Jed Thomas, Leidos
Rebecca Shreffler, Chenega
Gail Harris, Vista Sciences Corporation

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-19 Landfill North of Winklepeck Burning Grounds (Work Activity No. 267-000-859-114)

Ohio EPA Comment 1:
Page 3, Section 3.2 – A transition sentence or paragraph is needed to inform the reader there is a transition from historical studies to the Remedial Investigation (RI) between these two sections. "Area A" is referenced throughout the document. The language in section 6.0, Conclusions, lines 16-24, which describes area A, would be appropriate here.

Army Response:
Agree. The first paragraph in Section 3.2 has been revised as follows:

> "The U.S. Department of the Army (Army) investigated 28 acres in and around the site used during historical operations. This area is referred to as the AOI. The following environmental investigations have been completed for LNWBG:"

The last paragraph in Section 3.2 has been revised as follows:

> "These investigations were used to define the actual LNWBG AOC, which is also referred to as "Area A" within the LNWBG RI Report and this PP, and to assess potential chemical contamination and human health and ecological risk."

Ohio EPA Comment 2:
Page 3, Section 3.3, Line 84 – "Acre" is misspelled.

Army Response:
Agree. The text has been revised to "acre".

Ohio EPA Comment 3:
Page 5, Section 2.4.2, Line 90-91 – The legend for Figure 4 illustrates incremental sampling methodology (ISM) sampling areas as light-green box outlined in black. These sampling areas do not appear to be on the map.

Army Response:
Agree. The light-green box outlined in black was solely for LNWss-070M, as that was not considered a "grid sample". The black outline was overlayed by the AOI boundary, thus not evident in the figure. For the proposed plan, it is not important to distinguish between the two green polygons (ISM sample area and ISM grid sample area) for the PBA08 RI ISM sample scheme. Accordingly, Figure 4 has been revised to only use one green polygon to depict the PBA08 RI ISM samples.

Ohio EPA Comment 4
Page 5, Section 3.4.1, Lines 58-64 – Please revise the following lines to reflect the findings of the 2018 Risk Assessment (pages 7-40, 2018 RI Report):

Thallium was detected above the Resident Receptor Child **Screening Level** of 0.612 mg/kg in surface and subsurface soil. The Thallium concentrations were below the Resident Receptor (Adult and Child) facility-wide cleanup goal (FWCUG) at a hazard quotient (HQ) of 1.

Army Response:
Clarification and agree. The Facility-wide Cleanup Goal Report identifies this concentration of thallium as a FWCUG at HQ of 0.1, as opposed to a screening level. For clarity and consistency with the text immediately before the noted sentence, the text has been revised as follows:

> "Concentrations reported at LNWBG were below the risk-based screening levels (SLs) with the exception of thallium at "Area A." Thallium was detected above the SL of 0.612 mg/kg in surface and subsurface soil. The thallium concentrations were below the Resident Receptor (Adult and Child) facility-wide cleanup goal (FWCUG) at a target risk (TR) of 1E-05, hazard quotient (HQ) of 1."

Ohio EPA Comment 5:
Page 7, Section 5.2, Lines 31-32 – The statement "There is no significant ecological resources at the AOI exist" is immediately followed by a description of the Category 3 wetlands present with the area of interest (AOI). These are considered Ohio's highest quality wetlands, thus significant ecological resources do exist at the AOI. The intent of the above quote statement is not clear within the section. Perhaps the author meant to write that "…no significant potential threats to ecological resources at the AOI exist.

Army Response:
Clarification. As presented in Section 7.3.2.3 of the RI Report, "Ecological importance is defined as a place or resource that exhibits unique, special, or other attributes that makes it of great value. Ecological significance is defined as an important resource found at an AOC or in its vicinity that is subject to contaminant exposure."

Although two wetlands and tributaries to Sand Creek are present (important ecological resources), the sediment and surface water sampling results in and around the wetlands do not indicate that chemicals are present at concentrations of concern for ecological receptors. Thus, there are no significant ecological resources at LNWBG.

To provide clarity and brevity to the public, the following text change has been made to remove the statement about the significant ecological resources.

> Although two wetlands and tributaries to Sand Creek are present (important ecological resources), the sediment and surface water sampling results in and around the wetlands do not indicate that chemicals are present at concentrations of concern for ecological receptors. ~~Thus, no significant ecological resources at the AOI exist.~~ In addition, the wetlands were classified as Ohio Rapid Assessment Method Category 3, which is indicative of high-quality wetlands, and biological/water quality data collected from downstream sampling stations support the observation that LNWBG is not contributing contamination to Sand Creek. Further, the vegetation types are found elsewhere near the site, at CJAG, and in the ecoregion.

Ohio EPA Comment 6:
Page 18, Figure 3 – The figure is labeled "conceptual Site Model at Landfill North of Winklepeck Burning Grounds." It appears to portray the locations where surficial waste was encountered, along with subsurface investigations (i.e., trenching and borings). This appears to be mislabeled.

Army Response:
Agree. The title of Figure 3 has been revised as presented in response to Ohio EPA Comment 7.

Ohio EPA Comment 7:
Page 19, Figure 4 – This figure is somewhat difficult to interpret and appears overly busy. The areas delineated by the blue line (--..--..) are not described in the legend for the figure.

Army Response:
Agree. Additional figures will be added to the proposed plan. The new figure scheme will present the sample locations from individual investigations, as opposed to presenting sample locations on one figure. For spatial perspective of the sample locations, each of these figures will still show the extent of Area A and the anomalies identified during the 1996 geophysical survey. In addition, the blue line will be defined as the ISM sample area form the Characterization of 14 AOCs investigation.

New figure list and applicable revisions:
Figure 1 – Updated with new Camp James A. Garfield location map.
Figure 2 – Retitled "Area of Investigation at Landfill North of Winklepeck Burning Grounds"
Figure 3 (NEW) – Same as the RI Report Figure 4–1. Phase I RI Sample Locations
Figure 4 (NEW) – Same as the RI Report Figure 4–2. Characterization of 14 AOCs Sample Locations
Figure 5 (NEW) - Same as the RI Report Figure 4–7. PBA08 RI Soil Sample Locations
Figure 6 (old Figure 3 in Draft PP) – Retitled "Site Features of Landfill North of Winklepeck Burning Grounds"

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

February 28, 2019

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project records
Remedial Response
Portage County
ID #267000859114

Mr. David Connolly
Army National Guard Directorate
Environmental Programs Division
ARNG-ILE-CR
111 South George Mason Drive
Arlington, VA 22204

Subject: Draft Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19, Landfill North of Winklepeck Burning Grounds, Dated February 6, 2018

Dear Mr. Connolly:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the "*Proposed Plan for Soil, Sediment, and Surface Water at RVAAP-19, Landfill North of Winklepeck Burning Grounds*". The document, prepared by Leidos, was received by Ohio EPA, NEDO on February 11, 2019.

The Installation Restoration Program (IRP) remedial investigation for the Landfill North of Winklepeck Burning Grounds (LNWGB) investigated the nature and extent of contamination, fate and transport of contaminants in the environment, and risk assessments for soil, sediment, and surface water, established a final area of concern boundary for LNWBG, and recommended No Further Action for soil, sediment, and surface water. Based on our review, Ohio EPA's comments are below:

1. **Page 3, Section 3.2** – A transition sentence or paragraph is needed to inform the reader there is a transition from historical studies to the Remedial Investigation (RI) between these two sections. "Area A" is referenced throughout the document. The language in Section 6.0, Conclusions, lines 16 – 24, which describe Area A, would be appropriate here.

2. **Page 3, Section 3.3, Line 84** – "Acre" is misspelled.

3. **Page 5, Section 3.4.2, Lines 90-91** – The legend for Figure 4 illustrates incremental sampling methodology (ISM) sampling areas as a light-green box outlined in black. These sampling areas do not appear to be on the map.

4. **Page 5, Section 3.4.1, Lines 58-64** – Please revise the following lines to reflect the findings of the 2018 Risk Assessment (pages 7-40, 2018 RI Report):

   58 Thallium was detected above the Resident

   59 Receptor Child **Screening Level**

of 0.612 mg/kg in surface and subsurface soil. The thallium concentrations were below the Resident Receptor (Adult and Child) **facility-wide cleanup goal** (FWCUG) at a hazard quotient (HQ) of 1.

5. **Page 7, Section 5.2, Lines 31-32** – The statement "Thus, no significant ecological resources at the AOI exist" is immediately followed by a description of the Category 3 wetlands present within the area of interest (AOI). These are considered Ohio's highest quality wetlands, thus significant ecological resources do exist at the AOI. The intent of the above quote statement is not clear within the section. Perhaps the author meant to write that "...no significant potential threats to ecological resources at the AOI exist."

6. **Page 18, Figure 3** – This figure is labeled "Conceptual Site Model at Landfill North of Winklepeck Burning Grounds." It appears to portray the locations where surficial waste was encountered, along with subsurface investigations (i.e., trenching and borings). This appears to be mislabeled.

7. **Page 19, Figure 4** – This figure is somewhat difficult to interpret and appears overly busy. The areas delineated by the blue line (-- .. -- ..) are not described in the legend for the figure.

Please revise the document as per the comments above and re-submit to Ohio EPA. If you have any questions concerning this letter, please contact me at (330) 963-1170 or by email at ed.damato@epa.ohio.gov.

Sincerely,

Edward D'Amato
Site Coordinator
Division of Environmental Response and Revitalization

ED/sc

ec: Nat Peters, USACE
Katie Tait, OHARNG RTLS
Kevin Sedlak, OHARNG RTLS
Craig Coombs, USACE
Rebecca Shreffler, Chenega
Mark Johnson, Ohio EPA, NEDO, DERR
Bob Princic, Ohio EPA, NEDO, DERR
Tom Schneider, Ohio EPA, Southwest District Office, DERR